

EXHIBIT A

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U.S. Patent No. 7,230,931		
Claim Terms, Clauses, or Phrases	Plaintiff's Proposed Constructions and Support	Defendants' Proposed Construction and Support
<p>“For use in a wireless access network comprising a plurality of base stations, each of said plurality of base stations capable of bidirectional time division duplex (TDD) communication with wireless access devices disposed at a plurality of subscriber premises in an associated cell site of said wireless access network, a transceiver associated with a first of said plurality of base stations comprising”</p> <p>(Preamble – claims 1, 28)</p>	<p>Plain and ordinary meaning. Not a proper term for construction, as it includes multiple terms.</p> <p>To the extent that any portion of the preamble is limiting, the phrase “a transceiver” is not limiting.</p> <p>To the extent that the Court determines that “a transceiver” is limiting, it means “one or more transceivers.”</p> <p>Intrinsic Evidence</p> <p>’931 Patent: Figures 1, 2, 11; 12:5-45; 13:8-23; 27:7-27.</p> <p>U.S. Patent No. 6,470,177: Figs. 1, 2, 4, 4:19-20; 4:25-26; 4:42-60.</p> <p>Sprint IPR Final Written Decision at 17 (March 7, 2019).</p>	<p>Limiting.</p> <p>Intrinsic Evidence</p> <p>931 Patent, Claims 1, 28, Abstract, 4:19–21, 5:22–28, 9:1–12, 9:16–34, 11:55–65, 14:26–28, 22:52–57.</p> <p>Extrinsic Evidence</p> <p>Claim Construction Order, <i>General Access Solutions, Ltd. v. Sprint Spectrum L.P.</i>, 2:20- cv-7-RWS, Dkt. 105 (E.D. Tex. Sept. 29, 2020)</p>
<p>For use in a wireless access network comprising a plurality of base stations, each of said plurality of base stations capable of</p>	<p>Plain and ordinary meaning. Not a proper term for construction, as it includes multiple terms.</p>	<p>Limiting.</p> <p>Intrinsic Evidence</p> <p>931 Patent, Claims 19, 29, Abstract, 4:19–21, 5:22–28, 9:1–12, 9:16–34, 11:55–65, 14:26–28, 22:52–57.</p>

<p>bidirectional time division duplex (TDD) communication with wireless access devices disposed at a plurality of subscriber premises in an associated cell site of said wireless access network, a method of communicating with a first of said plurality of base stations comprising the steps of</p> <p>(Preamble – claims 19, 29)</p>		<p>Extrinsic Evidence Claim Construction Order, <i>General Access Solutions, Ltd. v. Sprint Spectrum L.P.</i>, 2:20- cv-7-RWS, Dkt. 105 (E.D. Tex. Sept. 29, 2020)</p>
<p>wireless access devices disposed at a plurality of subscriber premises</p> <p>(all claims)</p>	<p>Plain and ordinary meaning.</p> <p>“The ‘wireless access devices’ of the ’931 patent are not necessarily ‘fixed at a subscriber premises . . . In other words, the claims do not preclude base stations that can or do communicate with wireless devices that are not disposed at a subscriber’s premises. They simply require base stations capable of communicating with wireless devices that are disposed at a subscriber’s premises.”</p> <p><i>General Access Solutions, Ltd., v. Sprint Spectrum L.P., et al.</i>, Civ. No. 2:20-cv-00007-RWS (Sept. 29, 2020), Dkt. No. 105 (hereinafter, “Sprint Claim Construction Order”), at 18.</p> <p>Intrinsic Evidence ’931 Patent: 4:30-45; 5:22-25; 11:51-54.</p> <p>’931 Patent File History: Jan. 10, 2006 Non-Final</p>	<p>“wireless access devices disposed at a plurality of subscriber buildings or places in a building”</p> <p>Intrinsic Evidence 931 Patent, Abstract, Fig. 1, 4:19-21, 5:18-31, 7:10-20, 9:1-4, 9:16-23, 9:31-33, 9:38-39, 9:56-58, 9:61-63, 9:66-67, 10:4-5, 11:51-12:4, 12:13-20, 13:17-18;</p> <p>931 Patent File History, June 7, 2006 Office Action at 2–3.</p> <p>Extrinsic Evidence Claim Construction Order, <i>General Access Solutions, Ltd. v. Sprint Spectrum L.P.</i>, 2:20- cv-7-RWS, Dkt. 105 (E.D. Tex. Sept. 29, 2020);</p> <p>American Heritage College Dictionary (2000)</p>

	<p>Rejection; May 18, 2006 Amendment and Response to Office Action; June 7, 2006 Final Rejection; Oct. 13, 2006 Pre-Appeal Brief Request for Review; January 22, 2007 Notice of Allowance.</p> <p>Sprint IPR Petition at 20-21 (July 28, 2017).</p> <p>Sprint IPR Ex. 1003 ¶¶ 108, 115-17.</p> <p>Theodore Rappaport “Wireless Communications, Principles and Practice,” 1996 at 10, 398, 439, 441, 445-49.</p> <p>U.S. Patent No. 7,366,133 at 4:31-40, 16:41-47.</p> <p>Benjamin-Seeyar, Anader, et al, “Draft Document for SC-FDE Phy Layer System for Sub 11 GHz BWA,” IEEE 802.16.3c01-58r2 (May 17 2001) at 47.</p> <p>U.S. Patent No., 6,094,421 at 1:15-30, 2:19-20, 44:50-53.</p> <p>WO 96/37970 at Abstract, 1:4-11.</p> <p>Extrinsic Evidence Webster’s New International Dictionary Webster’s NewWorld Dictionary</p>	<p>defines “premise” as “a building or part of a building,” “land the buildings on it.” VZNGASCC_000001 at 003.</p> <p>Merriam Webster’s College Dictionary (10th ed. 1993) defines “premises” as “a building or part of a building usually with its appurtenances (as grounds),” “a tract of land with the buildings thereon.” VZNGASCC_000006, at 008.</p> <p>Newton’s Telecom Dictionary (16.5th ed. 2000) defines “premises” as “the space occupied by a customer or authorized or joint user in a building or buildings on continuous or contiguous property (except railroad rights of way, etc.) not separated by a public road or highway.” VZNGASCC_000009 at 011.</p> <p>Telephony’s Dictionary (2d ed. 1986) defines “premises” as “in telecommunications usage the buildings or offices of the user, not divided or separated by a public thoroughfare.” VZNGASCC_000012 at 014.</p> <p>Webster’s New World Dictionary (1994) defines “premise” as “a piece of real estate; house or building and its land.” VZNGASCC_000015 at 017.</p>
<p>wireless access devices</p> <p>(all claims)</p>	<p>Plain and ordinary meaning.</p> <p>“The ‘wireless access devices’ of the ’931 patent are not necessarily ‘fixed at a subscriber premises . . . In other words, the claims do not preclude base stations that can or do communicate with wireless devices that are not</p>	<p>“fixed, externally-mounted devices”</p> <p>Intrinsic Evidence 931 Patent, Abstract, Fig. 1, Fig. 6, 5:25-31, 9:16-39, 11:55-12:4, 14:26-28, 15:27-29, 22:52-57, 29:66-30:2.</p>

	<p>disposed at a subscriber's premises. They simply require base stations capable of communicating with wireless devices that are disposed at a subscriber's premises." Sprint Claim Construction Order at 18.</p> <p>Intrinsic Evidence</p> <p>'931 Patent at 4:30-45, 5:22-25, 11:51-54.</p> <p>'931 Patent File History: Jan. 10, 2006 Non-Final Rejection; May 18, 2006 Amendment and Response to Office Action; June 7, 2006 Final Rejection; Oct. 13, 2006 Pre-Appeal Brief Request for Review; January 22, 2007 Notice of Allowance.</p> <p>Sprint IPR Petition at 20-21 (July 28, 2017).</p> <p>Sprint IPR Ex. 1003 ¶¶ 108, 115-17.</p> <p>Theodore Rappaport "Wireless Communications, Principles and Practice," 1996 at 10, 398, 439, 441, 445-49.</p> <p>U.S. Patent No. 7,366,133 at 4:31-40, 16:41-47.</p> <p>Benyamin-Seeyar, Anader, et al, "Draft Document for SC-FDE Phy Layer System for Sub 11 GHz BWA," IEEE 802.16.3c01-58r2 (May 17, 2001) at p. 47.</p> <p>U.S. Patent No. 6,094,421 at 1:15-30, 2:19-20, 44:50-53.</p> <p>WO 96/37970 at Abstract. 1:4-24.</p> <p>Extrinsic Evidence</p> <p>Webster's New International Dictionary</p>	
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	<p>Webster's NewWorld Dictionary</p> <p>U.S. Govt. Accountability Off., GAO-01-93, General Accounting Office: Technological and Regulatory Factors Affecting Consumer Choice of Internet Providers (2000)</p> <p>Int'l Telecomm. Union [ITU], <i>Vocabulary of Terms for Wireless Access</i>, ITU-R.F. 1399 (1999)</p> <p>Loutfi Nuaymi, WiMax: Technology for Broadband Wireless Access 8-10 (John Wiley & Sons, Ltd. 2007)</p>	
<p>wireless access network</p> <p>(all claims)</p>	<p>No construction necessary.</p> <p>Intrinsic Evidence</p> <p>'931 Patent: 4:30 – 5:25; 11:51-54.</p> <p>'931 Patent File History: Jan. 10, 2006 Non-Final Rejection; May 18, 2006 Amendment and Response to Office Action; June 7, 2006 Final Rejection; Oct. 13, 2006 Pre-Appeal Brief Request for Review; January 22, 2007 Notice of Allowance.</p> <p>Theodore Rappaport "Wireless Communications, Principles and Practice," 1996 at 10, 398-99, 423-25, 432-33, 439-41, 445-49.</p> <p>U.S. Patent No. 7,366,133 at 16:41-47.</p> <p>U.S. Patent No. 6,094,421 at 1:15-30, 2:19-23, 44:50-53.</p> <p>WO 96/37970 at Abstract. 1:4-24.</p>	<p>"fixed wireless access network"</p> <p>Intrinsic Evidence</p> <p>931 Patent, Abstract, Fig. 1, Fig. 2, Fig. 6, Fig. 7, Fig. 8, 3:28-31, 9:1-12, 9:16-23, 10:51-53, 10:54-57, 11:7-10, 11:11-16, 11:17-21, 11:55-56, 13:8-11, 21:12-14, 21:35-37, 21:58-59, 22:38-41, 22:49-57, 23:37-42, 24:50-54, 25:29-37, 27:61-67, 28:24-31.</p>

	<p>U.S. Patent No. 6,470,057 at 1:6-10.</p> <p>U.S. Patent No. 6,052,408 at 1:19-35.</p>	
<p>Sector/s</p> <p>(all claims)</p>	<p>Plain and ordinary meaning, which is “a geographic portion of a cell site.”</p> <p>Intrinsic Evidence ’931 Patent at Fig. 2; Fig. 12A; Fig. 12B; Fig. 13A; Fig. 13B; 8:13-16; 12:24-27; 13:18-23; 28:7-12; 28:34-43.</p> <p>WO 96/37970 at 4:19-6:8.</p> <p>Benyamin-Seeyar, Anader, et al, “Draft Document for SC-FDE Phy Layer System for Sub 11 GHz BWA,” IEEE 802.16.3c01-58r2 (May 17, 2001) at p. 5-6, 31, 50, 52.</p> <p>Theodore Rappaport “Wireless Communications, Principles and Practice,” 1996 at 55, 58-61, 110, 428, 433.</p> <p>Sprint IPR Ex. 1012 at 49:15-21, 54:7-14.</p> <p>Sprint IPR Ex. 1011 at 8:9-13, 18:20-22.</p> <p>Extrinsic Evidence EP 3,266,238</p> <p>Webster’s Third New International Dictionary (2002)</p> <p>Shorter Oxford English Dictionary (5th Ed., 2002)</p> <p>ETSI TR 121.905 (1999)</p>	<p>“predefined arcs around the cell site, each of which is served by an individual RF modem and antenna,” wherein a sector cannot be “the area covered by any one directed scanning beam”</p> <p>Intrinsic Evidence 931 Patent, Abstract, Fig. 6, 4:60-65, 8:12-16, 8:28-31, 8:57-59, 9:5-8, 9:23-29, 12:24-45, 13:18-23, 14:53-55, 16:4-15, 16:20-23, 21:56-57, 22:52-57, 22:62-65, 24:16-19, 24:33-35, 26:59-63, 27:61-67, 28:5-7, 28:10-12, 28:17-22, 28:26-31, 28:34-36, 28:39-43, 29:51-55, 29:59-61.</p> <p>931 Patent File History, February 6, 2003, Foreign Reference.</p> <p>931 Patent File History, May 15, 2006, Response to Non-Final Office Action at 12-13.</p> <p>931 Patent File History, October 10, 2006, Pre-Appeal Brief Request for Review at 2.</p> <p>Extrinsic Evidence Dewan, Rajesh K. (2016). Saraswati Mathematics. New Delhi: New Saraswati House India Pvt Ltd. p. 234. ISBN 978- 8173358371 – The area of a sector is defined by the specific angle of the arc. VZNGASCC_000018 at 021.</p>

	<p>Yingzhe Li, Jeffrey Andrews, Francois Baccelli, Thomas D. Novlan and Charlie Jiangzhong Zhang, <i>Design and Analysis of Initial Access in Millimeter Wave Cellular Networks</i>, IEEE Transactions on Wireless Communications, Vol. 16, No. 10, October 2017</p> <p>Ahmed Alkhateeb, Young-Han Nam, Md Saifur Rahman, Jianzhong (Charlie) Zhang, and Robert W. Heath Jr., <i>Initial Beam Association in Millimeter Wave Cellular Systems: Analysis and Design Insights</i></p> <p>IMT-2020 (5G) Promotion Group – 5G Wireless Technology Architecture White Paper 2015-05 https://www.mathworks.com/help/phased/ug/massive-mimo-hybrid-beamforming.html#d124e29846</p> <p>Gábor Fodor, Nandana Rajatheva, Wolfgang Zirwas, Lars Thiele, Martin Kurras, Kaifeng Guo, Antti Tölli, Jesper H. Sørensen, Elisabeth de Carvalho, <i>An Overview of Massive MIMO Technology Components in METIS</i></p> <p>Ahmed et al., “A Survey on Hybrid Beamforming Techniques in 5G: Architecture and System Model Perspectives,” in <i>IEEE Communications Surveys & Tutorials</i>, vol. 20, no. 4, pp. 3060- 3097, Fourth Quarter 2018</p>	<p>Order on Motion for Summary Judgment and Motion to Strike, <i>General Access Solutions, Ltd. v. Sprint Spectrum L.P.</i>, 2:20-cv-7-RWS, Dkt. 350 (E.D. Tex. July 21, 2021).</p> <p>Patent Owner’s Response, <i>Sprint Spectrum L.P. v. General Access Solutions, Ltd.</i>, IPR2017-001189, Paper 25 (PTAB Aug. 3, 2018).</p> <p>Ulrich Vornefeld et al., “SDMA Techniques for Wireless ATM,” IEEE Communications Magazine (November 1999), VZNGAS0002232-37.</p>
<p>in said downlink portion of said TDD frame</p> <p>(all claims)</p>	<p>No construction necessary.</p>	<p>“in the same downlink portion of the same TDD frame”</p> <p>Intrinsic Evidence</p> <p>931 Patent, Claims 1, 19, 28, 29, Fig. 3, Fig. 5A, Fig. 5B, Fig. 5C, Fig. 6, Fig. 14, 7:43-8:11, 10:59-61, 10:65-11:10, 11:39-41, 14:29-15:20, 19:19-35, 22:49-23:36, 29:7-14, 29:51-61.</p>

		<p>Extrinsic Evidence</p> <p>Claim Construction Order, <i>General Access Solutions, Ltd. v. Sprint Spectrum L.P.</i>, 2:20- cv-7-RWS, Dkt. 105 (E.D. Tex. Sept. 29, 2020);</p> <p>Plaintiff's Opening Claim Construction Brief, <i>General Access Solutions, Ltd. v. Sprint Spectrum L.P.</i>, 2:20-cv-7-RWS, Dkt. 84 (E.D. Tex. July 29, 2020);</p> <p>Plaintiff's Reply Claim Construction Brief, <i>General Access Solutions, Ltd. v. Sprint Spectrum L.P.</i>, 2:20-cv-7-RWS, Dkt. 92 (E.D. Tex. August 19, 2020);</p> <p>Patent Owner's Response, <i>Sprint Spectrum L.P. v. General Access Solutions, Ltd.</i>, IPR2017-001189, Paper 25 (PTAB Aug. 3, 2018);</p> <p>Final Written Decision, <i>Sprint Spectrum L.P. v. General Access Solutions, Ltd.</i>, IPR2017- 001189, Paper 43 (PTAB Mar. 7, 2019);</p> <p>Ulrich Vornefeld et al., "SDMA Techniques for Wireless ATM," IEEE Communications Magazine (November 1999), VZNGAS0002232-37;</p> <p>Response Brief of Appellee General Access Solutions, Ltd., <i>Sprint Spectrum v. General Access Solutions, Ltd.</i>, Appeal No. 19-1855 (Fed. Cir. Oct. 7, 2019).</p>
start of frame field	No construction necessary.	"The field entitled Start-of-Frame (SOF) Field that is used to indicate the start of a frame"

(all claims)	Intrinsic Evidence '931 Patent at 9:29-34; 14:50-53; 19:62-64; 28:44-50; 29:7-10; 29:21-33; 29:47-50.	Intrinsic Evidence 931 Patent, Abstract, 9:29-34, 14:50-53, 19:62-64, 19:65-67, 20:5-8, 21:6-8, 28:44-51, 29:7-10, 29:22-25, 29:26-33, 29:47-50, 30:13-17. 931 Patent File History, October 10, 2006, Pre-Appeal Brief Request for Review at 1-2.
U.S. Patent No. 9,426,794		
Claim Terms, Clauses, or Phrases	Plaintiff's Proposed Constructions and Support	Defendants' Proposed Construction and Support
wireless communication device[s] (all claims)	No construction necessary. Intrinsic Evidence '794 Patent at 4:16-26; 4:36-42; 4:46-49; 4:60-63; 5:2-11; 5:12-17; 5:37-43; 6:20-26; Fig. 2; Fig. 3; 8:50-60; 10:45-47; 10:51-53.	"wireless device[s] in a fixed wireless access communication system" Intrinsic Evidence 794 Patent, Figs. 1-3, 3:41-54, 5:27-31, 5:44-46, 5:55-6:13, 6:14-26, 6:53-61, 7:27-35, 8:15-27, 9:20-41.
a first wireless transceiver operable to communicate with a base station (claims 1, 6)	No construction necessary. Intrinsic Evidence '794 Patent at 5:2-11; 7:44-49; 10:45-47; 10:51-53.	"a first fixed-site wireless transceiver operable to communicate with a fixed-site base station." Intrinsic Evidence 794 Patent, Figs. 1-3, 3:41-54, 5:27-31, 5:44-46, 5:55-6:13, 6:14-26, 6:53-61, 7:27-35, 8:15-27, 9:20-41.
[routes/routing...] information to the first mobile station and the second mobile station, respectively (claims 1, 6)	No construction necessary. Intrinsic Evidence '794 Patent at 6:37-44; Fig. 2; Fig. 3; 9:10-19; 9:42-46.	"[Selects / selecting] a network path over which information is to be transmitted to the first mobile station and [selects / selecting] a network path over which information is to be transmitted to the second mobile station, respectively" Intrinsic Evidence

		<p>794 Patent, Figs. 1–3, 3:41–54, 5:28–43, 6:13–26, 6:27–44, 6:45–52, 8:50–60, 8:61–9:3, 9:4–19, 9:29–41, 9:42–52.</p> <p>Extrinsic Evidence</p> <p>Dictionary of IBM & Computing Terminology defines “routing” as (1) “The process of determining the path to be used for transmission of a message over a network”; (2) “The assignment of the path by which a message is to reach its destination;” (3) “In SNA, the forwarding of a message unit along a particular path through a network, as determined by parameters carried in the message unit, such as the destination network address in a transmission [sic] header.” VZNGASCC_000004 at 005.</p>
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